Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A bandwidth divider for allocating bandwidth between a plurality of packet processors, comprising:

~~(a)~~ a plurality of counters indicative of a level of bandwidth consumption of each of the packet processors ~~for measuring the bandwidth of data packets transferred from the bandwidth divider to a respective packet processor~~; ~~and~~

~~(b)~~ a controller for analyzing the level of bandwidth consumption of each of the packet processors based on the plurality of counters and[;] ~~transferring~~ allocating a data packet to a ~~selected~~ one of the packet processors ~~processor based on the contents of the plurality of counters~~ having a lowest level of bandwidth consumption.

Claim 2 (original): The bandwidth divider of claim 1, wherein the bandwidth divider includes a plurality of interfaces, each coupled to an input and output stream.

Claim 3 (original): The bandwidth divider of claim 2, wherein the plurality of counters includes a counter for each input stream/packet processor combination.

Claim 4 (currently amended) The bandwidth divider of claim 2, further comprising a plurality of queues, one for each input stream/packet processor combination, each queue operable to receive packets and forward packets stored therein in accordance with the ~~selection~~ allocating of the controller.

Claim 5 (original): The bandwidth divider of claim 4, wherein the input stream/packet processor combinations are organized as linked lists in a common memory pool.

Claim 6 (original): The bandwidth divider of claim 1, wherein the packet processor is a packet forwarding engine.

Claim 7 (canceled)

Claim 8 (currently amended): The bandwidth divider of claim ~~7~~ 1, further comprising a decrement engine operable to decrement at least one of the counters indicative ~~indication~~ of the level of bandwidth consumption of the one of the packet processors ~~processor is decremented~~ over time.

Claim 9 (currently amended): The bandwidth divider of claim 8, wherein the ~~decrementation is performed~~ decrement engine is further operable to decrement the at least one counter in accordance with a half-life decay function.

Claim 10 (currently amended): The bandwidth divider of claim ~~7~~ 1, further comprising a normalizing engine operable to normalize ~~the indication~~ at least one of the counters indicative of the level of bandwidth consumption of the one of the packet ~~processor~~ processors after each packet is processed.

Claim 11 (currently amended): The bandwidth divider of claim 10, wherein the ~~indication of the level of bandwidth consumption of the packet processor~~ at least one of the counters is normalized such that ~~the~~ a lowest indication for all of the counters is 0.

Claim 12 (canceled)

Claim 13 (currently amended): The bandwidth divider of claim ~~7~~ 1, further comprising a random selector, wherein if the controller determines that a plurality of the packet processors have an identical, lowest level of bandwidth consumption, the controller ~~transfers~~ allocates the data packet to one of the plurality of packet processors having the lowest level of bandwidth consumption randomly selected by the random selector.

Claim 14 (currently amended): The bandwidth divider of ~~Claim~~ claim 13, wherein the random selector includes a Linear Feedback Shift Register function and the controller is operable to ~~transfer~~ allocate the data packet in accordance with the Linear Feedback Shift Register function.

Claim ~~15~~ 13 (currently amended): A router comprising:

~~(a)~~ a plurality of bandwidth dividers for receiving a first set of input streams and providing a first set of output streams;

~~(b)~~ a plurality of packet processors for receiving the first set of output streams from the bandwidth dividers and providing a second set of input streams;

~~(c)~~ a plurality of counters for monitoring the flow of data from the bandwidth dividers to the packet processors;

~~(d)~~ a controller for monitoring the counters and allocating the streams of data between the packet processors; and

~~(e)~~ a plurality of cross-bars for receiving the second set of input streams from the packet processors, multiplexing the second set of input streams, and providing a second set of output streams.

Claim ~~16~~ 14 (currently amended): A method of directing data packets to a plurality of packet processors, comprising ~~the steps of~~:

monitoring ~~the~~ bandwidth consumed by the packet processors;

determining, based on the bandwidth consumed by the packet processors, which one of the packet ~~processor~~ processors has consumed ~~the~~ a least amount of bandwidth;

allocating a next data packet to the one of the packet ~~processor~~ processors which has consumed the least amount of bandwidth.

Claim ~~17~~ 15 (original): The method of claim ~~16~~ 14, further including incrementing counters to track the bandwidth consumed by the packet processors.

Claim ~~18~~ 20 (original): The method of claim ~~16~~ 14, further including incrementing one counter for each input and output pair to track the bandwidth consumed by the packet processors.

Claim ~~19~~ 16 (currently amended): The method of claim ~~17~~ 15, wherein the determining ~~step~~ includes comparing the counters to ascertain the counter with ~~the~~ a lowest value.

Claim ~~20~~ 17 (currently amended): The method of claim ~~19~~ 16, wherein:

the determining ~~step~~ further includes determining if two or more of the counters have ~~the~~ an identical, lowest value; and

the allocating ~~step~~ further includes, if two or more of the counters have the identical, lowest value, allocating the next data packet randomly ~~as between~~ to one of the ~~packets~~ packet processors corresponding to one of the two or more counters ~~with~~ having the identical, lowest value.

Claim ~~21~~ 18 (original): The method of claim ~~17~~ 15, including decrementing the counters over time.

Claim ~~22~~ 19 (original): The method of claim ~~17~~ 15, including decrementing the counters over time using a half-life decay function.

Claim ~~23~~ 20 (original): The method of claim ~~17~~ 15, including normalizing the counters.

Claim ~~24~~ 21 (original): The method of claim ~~17~~ 15, including normalizing the counters by subtracting the value of the lowest counter from all counter values.

Claim ~~25~~ 22 (new): A method of allocating data packets to a plurality of packet processors, the method comprising:

receiving a data packet into an input queue of a bandwidth divider;

sending a data packet ready signal to a controller;

reading, by the controller, values in an I/O counter indicative of an amount of bandwidth consumed by the packet processors;

determining, by the controller, which one of the packet processors consumed a least amount of bandwidth; and

allocating the data packet to the one of the packet processors that consumed the least amount of bandwidth.

Claim ~~26~~ 24 (new): The method of claim ~~25~~ 23, further comprising:

adding, to one of the values in the I/O counter, a length of the data packet.

Claim 27 (new) The method of claim 25, further comprising:

normalizing the values in the I/O counter.

Claim 28 (new): The method of claim 25, further comprising:

decrementing the values in the I/O counter over time.

Claim 29 (new): The method of claim 25, further comprising:

decrementing the values in the I/O counter in accordance with a half-life decay function.

Claim 30 (new): The method of claim 25, wherein:

when the determining determines that at least two of the packet processors have a same least amount of bandwidth consumed, the determining selects one of the at least two packet processors randomly.